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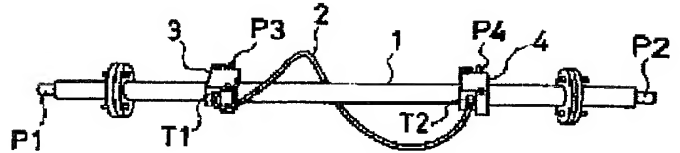
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TITLE : DIRECTIONAL COUPLER



ABSTRACT : PURPOSE: To provide a directional coupler which has simple structure and superior directivity characteristics and is easily adjusted in the characteristics.

CONSTITUTION: A coaxial cable 1 is provided with two coupling points at a distance of electric length θ_1 , and a coaxial cable 2 is coupled with both the coupling points through coupling parts 3 and 4 by using capacitors. The coupling part 3 has a 3rd port P3 and leads part of a sent signal in the coaxial cable 1 to the 3rd port P3 and coaxial cable 2 and the coupling part 4 has a 4th port P4 and leads part of the sent signal to the 4th port P4 and coaxial cable 2. The coaxial cable 2 has electric length $\theta_2 = \theta_1 + (2n+1)\pi$ and at the 3rd port, an incident wave from the coupling part 3 and an incident wave outputted through the coupling part 4 and coaxial cable 2 are opposite in phase, so that neither of the incident waves is outputted. At the 4th port P4, an incident wave outputted through the coupling part 3 and coaxial cable 2 and an incident wave outputted through the coupling part 4 and coaxial cable 1 are in phase with each other and then outputted.

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